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To cite this article: Francesco Macheda (2021): The Structural Roots of China's Effectiveness against Coronavirus Pandemic, International Critical Thought, DOI: [10.1080/21598282.2020.1869993](https://doi.org/10.1080/21598282.2020.1869993)

To link to this article: <https://doi.org/10.1080/21598282.2020.1869993>



Published online: 22 Jan 2021.



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# The Structural Roots of China's Effectiveness against Coronavirus Pandemic

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## ABSTRACT

China's effectiveness in quickly solving the health crisis caused by the coronavirus pandemic and in softening its economic impact is rooted in the structural characteristics of its development model, in which state-owned enterprises remain crucial. This article holds that a strong public presence within the industrial and banking sectors has provided Chinese government with the opportunity to rapidly reactivate domestic production and, potentially, to maximise the effectiveness of the recently launched monetary and fiscal policy measures.

## ARTICLE HISTORY

Received 5 August 2020  
Revised 10 August 2020  
Accepted 29 November 2020

## KEYWORDS

China; COVID economic impact; state-owned enterprises; fiscal and monetary policy

## 1. Introduction

This article will discuss how the extension of the public sector of Chinese economy has allowed the country's policymakers to limit the economic impact of COVID-19. In order to understand the contribution provided by the state sector to counter what appears to be the most serious crisis since 1929 (IMF [International Monetary Fund] 2020, v), it is necessary first of all to examine the evolution of the events that have occurred in the period between mid-January and the end of May 2020. This period coincides with the explosion of, the control over and the reaction against COVID-19 in China. For exposure convenience, this period is divided into three phases. Although they overlap to some extent, this periodisation will help contextualise the working hypothesis. The suggested idea is that the centrality occupied by state-owned enterprises (SOEs) within the Chinese economy has equipped the country's government with the resources necessary to significantly reduce the time required to overcome the sanitary crisis (phase I), promptly reactivate the domestic production chain (phase II), and maximize the effectiveness of fiscal and monetary stimuli aimed at stabilizing the output (phase III).

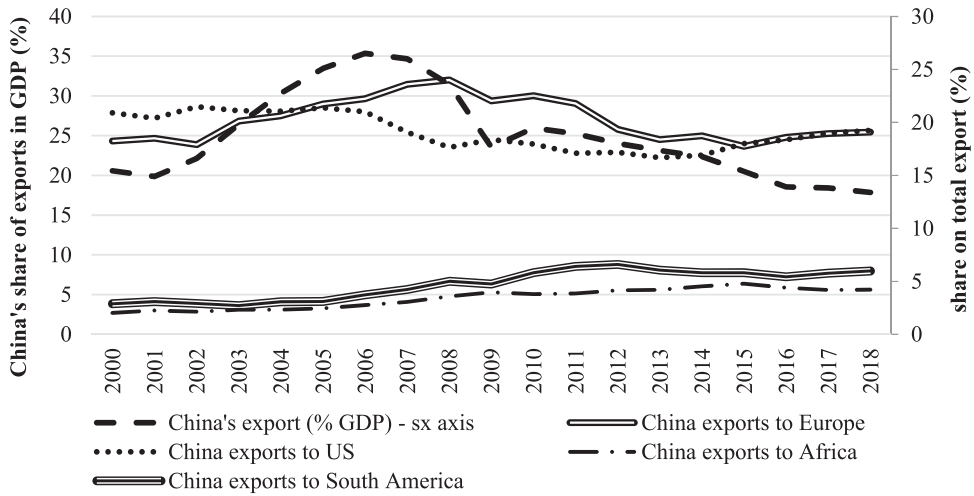
During the first phase (end of January to mid-February 2020), the total or partial closure of the production facilities has hindered the circulation and the use of the factors on which the production activity is based—such as labour, capital, and technology. This has severely affected the key sector of the Chinese economy, namely manufacture. High technology sectors—such as the automotive and IT-electronics industries—have been the most penalised, with profits falling by 79.6% and 87% respectively in the first trimester of the year (NBS [National Bureau of Statistics of China] 2020a, 2020b). The cause of

this dramatic decline lies in the high degree of social division of labor in their production processes, so that production interruption in the areas most affected by the epidemic immediately resulted in a bottleneck in the supply of components and semi-finished goods—leading to a significant reduction in the volumes produced. The negative shock on the supply side resulted in a fall in the aggregate demand. On one hand, the fall of profitability, combined with the general climate of uncertainty, has slowed down investments (NBS 2020a). On the other, restrictions on social contact and the total or partial closure of the facilities, which has resulted in a generalised reduction of hours worked (Xu, Dai, and Zhong 2020), have reduced the demand for consumer goods. This downward spiral has led to an increase in the unemployment rate (from 5.3–6.2% between February 2019 and February 2020) and a decline in output of –6.8%—the worst fall since 1962 in the aftermath of the “Great Leap Forward”’s disastrous experience.

Once solved the sanitary aspect of the crisis, the second phase of the Chinese battle against coronavirus (mid-February—end of March 2020) coincides with the economic response of the policy-makers, aimed at the quick re-establishment of the full production capacity. The moderately expansionary policies adopted by the Chinese government at this stage focus on restoring the financial condition of the micro, small and medium-sized manufacturing enterprises (SMEs) severely affected by the epidemic. Given their high degree of involvement in the production chain, the absorption of the losses accumulated by these firms during the first “lockdown” phase and the channelling of liquidity into the production system have contributed to a rapid reinforcement of the value chain at the national level. At this stage, the limited redistributive interventions seem to indicate that Chinese policymakers were relying on a rapid adjustment of the aggregate demand to the new supply conditions. This is made clear by the words of Prime Minister Li Keqiang, who, in mid-March 2020, stated that the recovery of China’s economy from the “coronavirus crisis” was contingent upon the restoration of the “normal operation of the market” (State Council of the People’s Republic of China 2020a).

The third phase (which began at the end of March and is still continuing) represents a turning point in the Chinese government’s approach which is aimed at repositioning the economy on a growth path. The global spread of COVID-19 has made clear that market mechanisms alone would not be sufficient to restore the previous period’s income levels. This is primarily due to China’s high degree of trade openness. Although the importance of exports for the economy has been declining steadily since 2006, it still accounts for 17.4% of GDP (Figure 1).

The high elasticity of demand for Chinese goods with respect to their income implies that the slowdown in advanced economies will have a significantly negative impact on China’s export sector.<sup>1</sup> In fact, the fall in incomes in Europe and the United States has already begun to show its first effects if it is true that, despite that Chinese manufacture began to fully recover its production capacity in mid-March 2020, exports have continued to decline in the following month.<sup>2</sup> Given the relevance of exports for the domestic economy, a long-term slowdown without reallocation of resources to other sectors could, therefore, turn the pandemic’s short-term nature into a long-term recession. It is in this context that fiscal and monetary measures have been recalibrated decisively on the side of domestic demand.



**Figure 1.** Exports on China's GDP and their destination in total (%). Source: NBS (2020a, 2020b, 2020c).

This article argues that the vigorous intervention of the state in the economic activity plays a fundamental role in dealing effectively with the repercussions specific to each of the three phases outlined above. Mere state interference in economic affairs alone, it must be noticed, is far from enough to rapidly solve the crisis caused by the coronavirus pandemic and mitigate its economic impact. After all, “the government has an important guiding role even in capitalist countries” (Solow 1962, 216), without them being capable of achieving the same or at least comparable effectiveness against COVID-19 as China. A major reason for this divergence lies in the different role of the state in capitalist economies compared with socialist ones. Under capitalism, the state stands as a guard of the interests of capital accumulation, which essentially limits the role of the government to solving market failures (for example through the provision of public goods that cannot be provided by private organizations), indirectly managing aggregate demand, and even implementing “a somewhat comprehensive socialisation of investment” (Keynes 1936, 378). This however, in no way implies extensive state property. Rather, it chiefly entails the socialization of the costs and risks of investments, while the ownership of the means of production and basic decisions concerning credit allocation remain firmly in the hands of private enterprises, whose main goal is to maximize profit.<sup>3</sup>

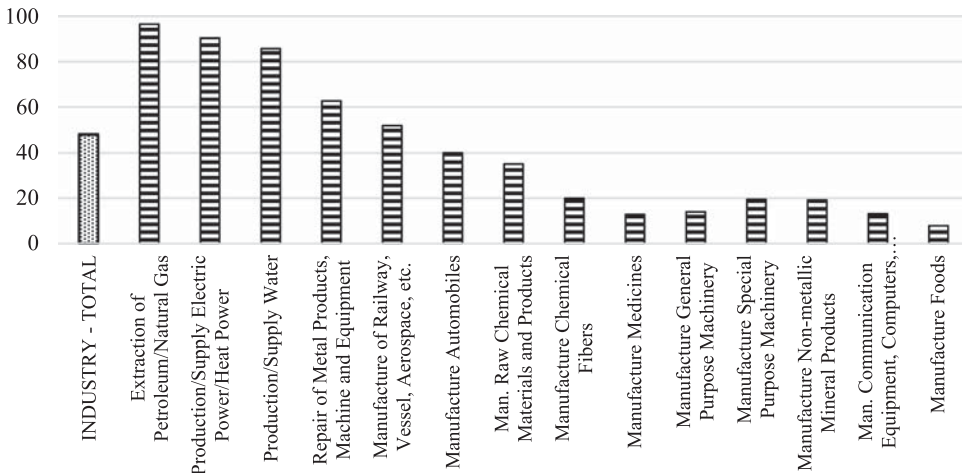
On the other hand, “public ownership of the means of production is the basis of the socialist economic system” (Yu 2018b, 70). The dominant role of public ownership is an essential precondition for providing the government with the resources not only and not so much necessary to maintain short-term equilibrium and address market failure (Yu 2018a), as “to coordinate the class relations between labor and capital in the stance of the working class” (Cheng 2019, 520), a statement that does not apply in regard to the government of capitalist countries. As the general representative of public ownership, under socialism the state has therefore the potential to undertake critical socio-economic responsibilities which, not infrequently, collide with the standard criteria of capitalist profitability but which are nevertheless necessary to satisfy the common interests of society as a whole.

In China, although the private sector has grown considerably, public ownership still represents the pillar of the national economy. The main proposition of this article is that the crucial position of state-owned enterprises, which belong to the people, has endowed the leadership of the Communist Party of China with great leverage to “protect people’s life and health at all costs” (phase I), influence the direction of social resources to safeguard economic safety in the short-run (phase II), and implement development plans that might possibly restore the economy on a growth path in the long-run (phase III). In the initial phase, the relevance of an economic sector sheltered from competitive forces has limited the conditioning exercised by market agents on the government sphere, endowing the latter with the institutional capacity to promptly implement stringent lockdown measures. Besides, the “structural production overcapacity” has allowed the public enterprises to provide goods and services during the emergency context. Overall, this has reduced the time needed to address the health crisis, decelerating the fall in income and averting dangerous inflationary spirals. In the second phase, the direct connection between the central bank and the public commercial banks that dominate the Chinese financial system has sustained the efficiency of the monetary transmission mechanisms, channeling the resources necessary to safeguard the functioning of China’s industrial chain to the SMEs. In the third phase, currently underway, government’s control over state-owned enterprises might enable the recently launched monetary and fiscal stimuli to result not only into a rapid increase in aggregate demand in the short term but also into an acceleration of output growth potential in the long term.

The remainder of this article is structured as follows: the second part will outline the structural characteristics of the Chinese economic model. In the three sections that form the third part, working hypotheses will be elaborated. In the fourth, fifth and sixth part the proposed assumptions will be tested, examining the role played by the state-owned sector of the economy respectively in accelerating the resolution of the sanitary crisis (Phase I), absorbing the shock on the supply side (Phase II), and effectively conveying the expansionary manoeuvres recently launched by the government on the real economy (Phase III). The final part concludes.

## 2. The “Structural Centrality” of SOEs in the Chinese Economy

Over the last few decades, the “opening-up” policies inaugurated by Deng Xiaoping have offered private enterprises the opportunity to penetrate new sectors of the Chinese economy. The low wages guaranteed by a large labour surplus have given them the opportunity to obtain high-profit margins, which have in turn driven a massive investment process—resulting in an economic growth like no other at a global level (Aziz and Dunaway 2007; Barnett and Brooks 2006; Ding, Knight, and Zhang 2019, 499; Gong and Lin 2008).<sup>4</sup> Despite its growing importance, a limited number of private firms operate in the capital-intensive industries, the latter being dominated by SOEs, which still “play a vital role in China’s economic development” (Yu 2014, 165). In 2017, state owned enterprises still held 48.1% of the stock of capital employed in industry (Figure 2)—a sector that accounts for 40% of the GDP. The position of the state-owned enterprises is dominant in the strategic areas, such as in the extractive and energy sectors, and their involvement in high value-added productions such as cars and other means of transport is significant, since they own 40.1 and 51.8% of the capital stock of the respective sectors. Even in the

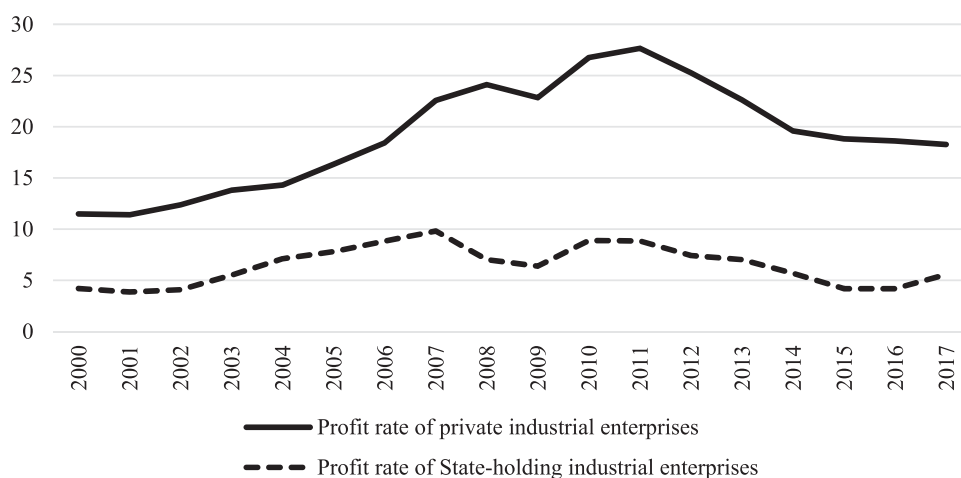


**Figure 2.** Share of capital stock held by state-owned enterprises in China's industrial sector (%). Source: NBS (National Bureau of Statistics of China) (2020a, 2020b, 2020c).

chemical industry, in the production of machinery and computer products, as well as in the food industry, the presence of the State hardly seems negligible. Significant though it may be, the specific weight of public enterprise compared to that of the private enterprises may be barely captured by these data, if it is true that, still in 2011, SOEs held 90% of the assets (and recorded 85% of the revenues) owned by the 500 largest companies operating within national borders (Lu 2012).

The leading role of state-owned enterprises is intimately linked to the development strategy typical of socialist countries and which the Chinese government still pursues today—centred on maintaining full employment and simultaneously supporting metallurgical, steel and mechanical industries. The pursuit of this double objective, however, appears to be incoherent with the comparative advantages of the Chinese economy, so that the capital-intensive nature of heavy industry makes it inherently incapable of absorbing excess labour. For this reason, the surplus labour force is being occupied by the State enterprises (Dong and Putterman 2003; Röller and Zhang 2005; Xu, Zhu, and Lin 2005). In this sense, the redundancy of labour employed by SOEs serves political objectives—first of all, the maintenance of social stability (Johansson et al. 2017; Lin, Cai, and Li 1998; Perotti, Sun, and Zou 1999; Lin and Tan 1999; Lin and Li 2008, 92–93). Setting this burden on SOEs pushes them to increase their output beyond the competitive optimum, generating diseconomies of scale, which in turn result in efficiency losses (Xu, Zhu, and Lin 2005). If the productive overcapacity is followed by an increase in production, the effect is likely to be an increase in exports at low prices or a reduction in marginal revenues. In both cases, the result is a fall in profitability (Figure 3). The profitability figures for both the public and the private industrial sector seem to confirm this assumption: from 2000 to 2017, the profitability of the former was almost three times lower than that of the latter (6.4% compared to 19.2%), reflecting the divergence in productivity between the two sectors (Du, Liu, and Zhou 2014; Yu 2014, 176).

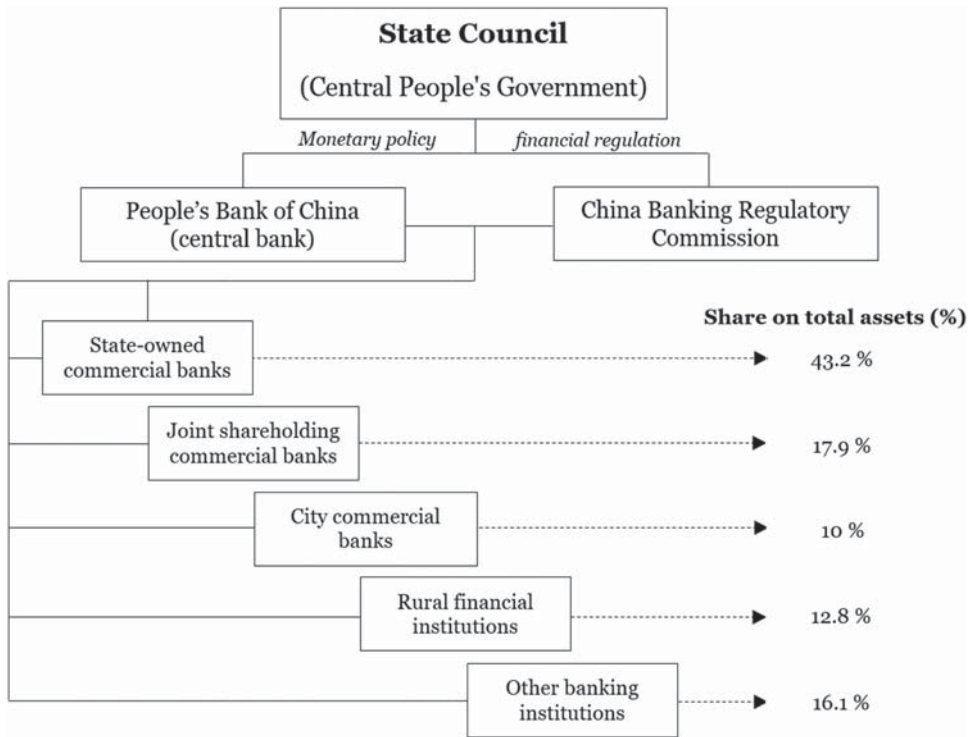
The reduced availability of operating cash flows resulting from the low capital yields— if not even from the constant losses recorded<sup>5</sup>—has not constituted a limit for the over-



**Figure 3.** Profit rates of private and public enterprises in the industrial sector in China. Source: NBS (National Bureau of Statistics of China) (2020a, 2020b, 2020c).

expansion of the SOEs' production capacity. This is due to their special relationship with the financial system, which continues to be firmly controlled by the government. The country's largest commercial banks are jointly regulated by the central bank (People's Bank of China [PBC]) and the China Banking and Insurance Regulatory Commission (CBIRC). In turn, these institutions depend directly on the State Council of the People's Republic of China, hence the executive power. Unlike the "bancocentric" systems present in advanced capitalist countries such as Germany and Japan, the Chinese peculiarity lies in the ownership structure of the country's credit institutions. Although the entry barriers in the financial industry have been relaxed since the early 1990s, the Chinese state maintains a far-reaching control over the credit sector (Figure 4). The four major public banks in the country (the so-called "Big Four") respond directly to the government, and together hold 43.2% of banking assets (CBIRC 2014). Besides them, there are twelve commercial banks quoted on the stock exchange, and a plurality of commercial banks and cooperative banks that own 17.9%, 10% and 12.8% of the assets respectively. In the first group, with the exception of two of them, the State (through the local governments and the Big Four) represents the majority shareholder. The credit institutions belonging to the second and third group are also in the majority of cases controlled by the public sector, as the local governments possess the majority shares of the share capital (Lardy 2004, 99). Lastly, one final category of banking institutions holds 16.1% of the assets. Within it, are the two public giants China Development Bank and Postal Savings Bank of China, which together hold 9.7% of the total assets (CBIRC 2014). It follows from what has been stated above that the state has the full ownership of 52.9% of the assets. At the same time, it is reasonable to assume that the state owns at least half of the remaining assets. This means that the government directly or indirectly controls more than 75% of China's banking assets.<sup>6</sup>

Even though competition among state-owned banks has intensified dramatically since the early 2000s (Chong, Lu, and Ongena 2013, 3413–3414), the de facto monopolistic position on the banking market as a whole has allowed the government to impose a



**Figure 4.** Structure of the Chinese banking system. Source: Author's elaboration of CBIRC data (CBIRC 2020a, 2020b).

high degree of “repression” within the financial sector. Through direct and indirect control over the banking system, the Chinese government was (and still is) able to set extremely low interest rates on deposits and loans (Riedel, Jin, and Gao 2007). This has produced (and continues to produce) two consequences: on one hand, in a context of stringent control over capital movements, the maintenance of nominal interest rates on deposits at similar levels of the inflation rate has provided the banking sector the possibility of raising a large amount of resources at particularly unfavourable conditions for the savers (Zhang and Tan 2015, 115). This, on the other hand, has enabled the banking system to offer loans to the corporate sector on extremely favourable terms. Decisions on credit allocation, however, do not usually take place on the basis of criteria linked to the financial performance of the production units. Rather, they respond to purely strategic considerations, which tend to support the development of heavy industry dominated by SOEs, regardless of their profitability (Tan, Ji, and Huang 2016, 11). Within this institutional structure, public banks serve as a transmission belt between the socio-political objectives of the government and the productive expansion of SOEs by guaranteeing favourable conditions of access to credit, and even the absorption of losses (Firth, Lin, and Wong 2008; Lin and Li 2008, 95; Lindbeck 2007, 5).<sup>7</sup> Moreover, the accumulation of non-performing loans caused by the low profitability of SOE investment projects is often resolved by direct government intervention, which has systematically ensured the rescue of the public banks involved. The “soft budget constraint” (Kornai



1986) they enjoy thus allows public enterprises to fulfil their “political obligation” by means of a constant trend towards over-investment (Ding, Knight, and Zhang 2019, 504; Dollar and Wei 2007; He and Kyaw 2018; Liu and Siu 2012; Shen, Firth, and Poon 2016).

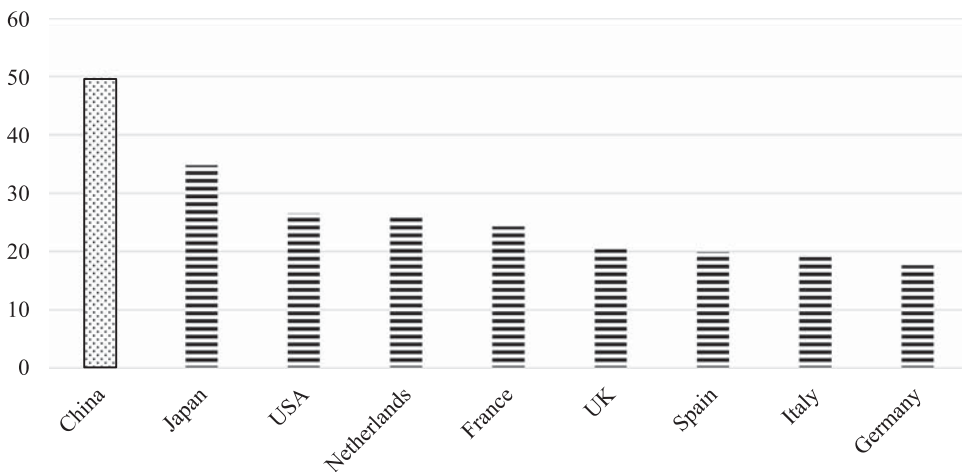
### 3. The Resources Provided by the SOEs to Combat the COVID-19 Epidemic

In the following section, we will elaborate the assumptions concerning the resources provided by SOEs to Chinese policymakers, and which have enabled the latter to stem the initial impact caused by the COVID-19 eruption (Phase I), reactivate the domestic supply chain (Phase II), and maximize the effectiveness of expansive manoeuvres to support aggregate demand (Phase III).

#### 3.1. The Political and Economic Importance of SOEs and Chinese Economy’s Resilience (Phase I)

The allocation of resources imposed by forces outside the market has contributed to model an industrial structure that tends to favour objectives tied to high employment levels. This has ensured, even during the Chinese market-opening phase, the survival and eventually the expansion of SOEs, although they only rarely pursue profit maximisation objectives. The economic centrality of the public sector represents a specificity of the Chinese model: with the exception of Japan and partially of the United States where, however, public presence is largely overestimated due to the gigantic military apparatus, in the most advanced European countries the “public” share in the total capital stock amounts to two to three times less than in China (Figure 5).

The suggested hypothesis is that the greater influence in the ownership structure of the domestic industry provides Chinese policy-makers the capacity to resist the interest groups’ pressure, granting them a degree of independence from the exigencies of



**Figure 5.** Share of state-owned capital stock in China and selected OECD countries, 2016. Source: IMF (2017, 2019, 2020).

profit maximization required by the business system. In other words, the relevance of the public sphere within the economy reveals a different weight of the influence of business organizations on China's political sphere than in the capitalistically advanced world. This is even more significant if one looks at the property relations that prevail in the epicentre area of the COVID-19 epidemic, i.e. the Hubei region, where the public sector's share of industry amounts to 57.1%. This could help explain the relative ease with which the Chinese government has implemented blocking measures on manufacturing and transport once the COVID-19's deadliness was proven.

A second element inscribed in China's economic structure that may have helped minimize Coronavirus's impact on the domestic economy lays in the structural production overcapacity of the domestic industry, due to the constant trend towards over-investment of SOEs. While curbing efficiency and profitability (European Union Chamber of Commerce in China 2016), preserving excess capacity can prove vital in modern economies that are increasingly dependent on complex systems. This because production systems and supply chains are vulnerable to a wide range of unintentional and unexpected events, such as human error or environmental accidents. In other words, the minimization of overcapacity ensures efficiency gains in the long term when production and demand conditions are relatively stable. However, economic systems do not operate within "controlled" laboratory conditions, but within natural environments, whose inherent uncertainty precludes exact knowledge of future demand. For this reason, "efficiency over the long run requires a certain degree of redundancy" (Perelman 2003, 140) capable of withstanding unforeseen events that may cause serious repercussions. Logically, the outbreak of an epidemic is one such eventuality. In such circumstances, excess production capacity favours the ability of the productive systems to maintain a certain stability in the supply of goods and services (Fraccascia, Giannoccaro, and Albino 2018), conferring on both the individual firms and the production chains the abilities to react promptly to external disturbances—absorbing the external shock and maintaining their own functions.

Two implications follow: first, overcapacity equips SOEs better to face unexpected events, enabling them to increase immediately supplies of goods whose demand has suddenly surged. Second, the greater the weight of public enterprises within the economy, the greater is its resilience (ANBOUND 2020).

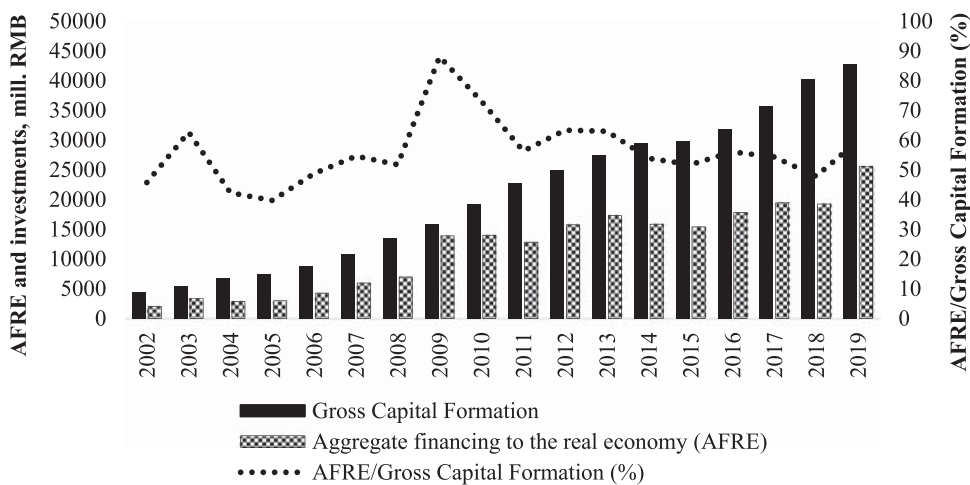
### ***3.2. The Chinese Banking System and the Support for the Value Chain (Phase II)***

As a result of market reforms, the Chinese banking system has sought to encourage the expansion of SOEs in capital-intensive sectors (Tan, Ji, and Huang 2016, 2), creating what some authors have described as a genuine "division of industry' between private enterprises and SOEs" (Zhao 2009, 37). The relative penalization from the perspective of credit allocation should not be interpreted as a lack of interest towards private enterprises, especially the small and medium-sized ones. The latter continue to face serious difficulties to obtain loans from banks, "because the Chinese banking system is still dominated by large state-owned banks" (Zhao 2009, 44). Nevertheless, these firms occupy a key position in the subcontracting of processed and semi-finished textile and chemical products, ferrous materials, electrical wiring and retail. Their deep involvement in the national (and international) value chain and their "labour-intensive" specialization not only

make SMEs a vital part of the manufacturing sector, but also a significant vehicle of labour absorption.

These firms are among the most affected by exogenous shocks because of their lack of liquidity. The specialization in low-value-added processing and the high competitiveness that characterizes the subcontracting chain hinders the accumulation of profits, thus the slowdown of operations results in the erosion of their balance sheet—compromising their capacity to meet their financial obligations.

Because of the high upstream involvement of these firms in the production chain, the strengthening of SMEs financial condition is therefore an essential prerequisite for the maintenance of the Chinese position in the manufacturing sector on the global scale. It is possible to assume that, given its importance within the Chinese financial system, the public-driven banking system possesses the capacity to promptly divert savings towards the real economy, stabilizing SMEs' cash flows, and thereby preventing a chain of bankruptcies that would break the value chain at the national (and international) level. The observation of the financial flows towards the real economy over the last twenty years can provide some useful evidence to corroborate this hypothesis. An aggregate measure of the liquidity provided by the financial system to the private sector of the real economy over a given period of time is shown by a specific index of the Chinese statistical system, designated as “aggregate financing to the real economy” (AFRE). The financial system includes banking institutions, insurance companies, securities firms, etc. The calculation of the AFRE therefore includes bank loans, foreign currency loans and bonds (public and private), and equity capital that flow to the real sector of the economy through the financial sector (Elliott and Yan 2013, 9). Its correlation with gross investment can approximate the contribution made by the financial system in supporting capital accumulation. The Figure 6 below shows how this contribution has remained average between 50% and 60% over the last twenty years. Nevertheless, the massive flow of liquidity in the aftermath of the 2009 crisis, which reached almost 90%, indicates



**Figure 6.** The contribution of the financial system to the real economy. Source: NBS (2020a, 2020b, 2020c).

a marked effectiveness of the financial system in diverting resources to the private business system.

The incentive package adopted by the government in the autumn of 2008 was mainly channelled through commercial banks, which “were encouraged to lend freely to stimulate investment” (Borst and Lardy 2015, 5). It can, therefore, be assumed that, as was the case in 2009, the public nature of the Chinese banking system may contribute to allocate the resources necessary to safeguard the existence of the SMEs severely affected by the outbreak of the epidemic.

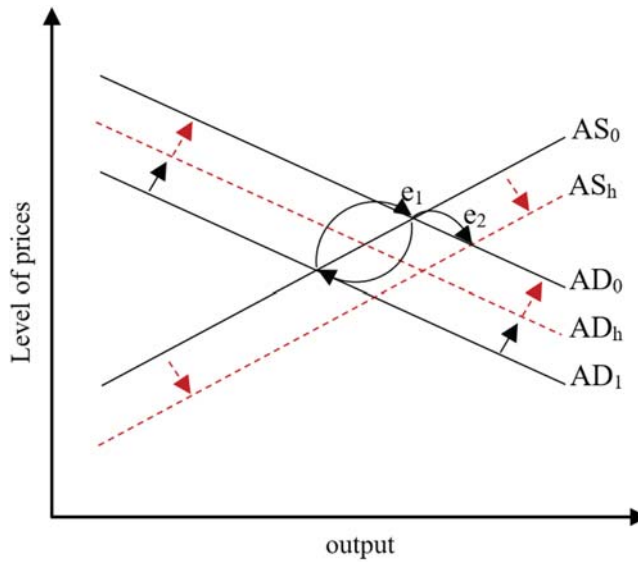
### **3.3. Industrial SOEs and the Transmission of Monetary Policy in China (Phase III)**

The special relationship which intertwines the triad “political system—banking system—industrial SOEs” substantially changes the transmission channel of monetary policy, enabling it to “push on a string,” the metaphor used by Keynes to indicate how, while a restrictive manoeuvre can easily lead the economy towards recession, an expansive manoeuvre, on the contrary, may not be able to project the economic system in the direction of expansion. The reason is that, although the primary objective of monetary expansion is to encourage firms to increase their investments, in a recessionary and highly uncertain environment financial institutions often reduce the supply of credit towards enterprises, especially to those less solid from a patrimonial point of view.

The existence of public enterprises can help solve this dilemma, at least over the short term. On the one hand, thanks to the implicit or explicit guarantees given by the government, the banking system can more easily allocate liquidity to public enterprises, which are considered less risky from a lender’s perspective. On the other hand, central and local government can intervene in SOEs’ operations, using them as vectors to support expansive policies through the provision of loans to fund investment projects aimed at reabsorbing the workforce expelled from the labour market, as this typically happens in the aftermath of a crisis. Because of these reasons, the relaxation of credit conditions in a stagnant environment can go hand in hand with an increase in the level of indebtedness of public enterprises in comparison to private ones. This, in turn, may lead to a higher rate of investment of the former over the latter (Chen, Li, and Tillmann 2019).

This means that the greater the weight of the public sector on the economy, the more effective is the potential of an expansive “pushing on a string” manoeuvre, i.e. the acceleration of investment, employment and GDP. Since the public sector, as seen above, occupies a substantial part of Chinese industry, it can also be assumed that expansionary manoeuvres could prove more effective in China than in economies where state-owned ownership has a less prominent place. Last but not least, as the cumulative growth of manufacturing output contributes to increase the productive capacity of the workforce, on which the rate of productivity growth depends (Kaldor 1978), it can therefore be assumed that support for investment in order to tackle the fall in demand due to the spread of COVID-19 on an international scale can accelerate the potential for output growth in the long term.

A simple AD-AS scheme can summarize the assumptions outlined above (Figure 7): if one assumes that the AD<sub>1</sub> curve refers to the level of aggregate demand immediately after the COVID-19 lockdown, increased effectiveness of monetary transmission mechanisms could permit expansive manoeuvres to rapidly restore AD to its original position (AD<sub>0</sub>)



**Figure 7.** The absorption of the demand shock and the expansion of aggregate supply.

rather than to a hypothetically lower level ( $AD_h$ ). At the same time, if the planning of the investment prioritizes development in high-tech areas, then the stimuli may shift the aggregate supply curve ( $AS_0$ ) in the direction of  $AS_h$ , increasing output while preventing price increases.

#### 4. The Mitigation of the Impact of COVID-19 on the Chinese Economy (Phase I)

The economic downturn caused by COVID-19 depends on the capacity of the political and socioeconomic system to minimize the duration of the slowdown of productive activities. Once understood the deadly power of the virus, in the second half of January 2020,<sup>8</sup> China's central government clarified how the country's priority was the eradication of the virus in the shortest possible time. The prompt imposition of measures aimed at stopping the productive activities in the areas at the epicentre of the epidemic and in the surroundings, the temporary closure of non-essential activities in the rest of the country, and the limitation of the movement of people at inter-regional level—to the point of isolating the entire highly industrialized region of Hubei—have played a decisive role in the isolation of the viral outbreaks. Although these measures have entailed a huge economic cost, they have averted an uncontrolled spread of the epidemic (WHO 2020), allowing the rapid restoration of the normal functioning of the institutions which ultimately ensure the reproduction of economic life.

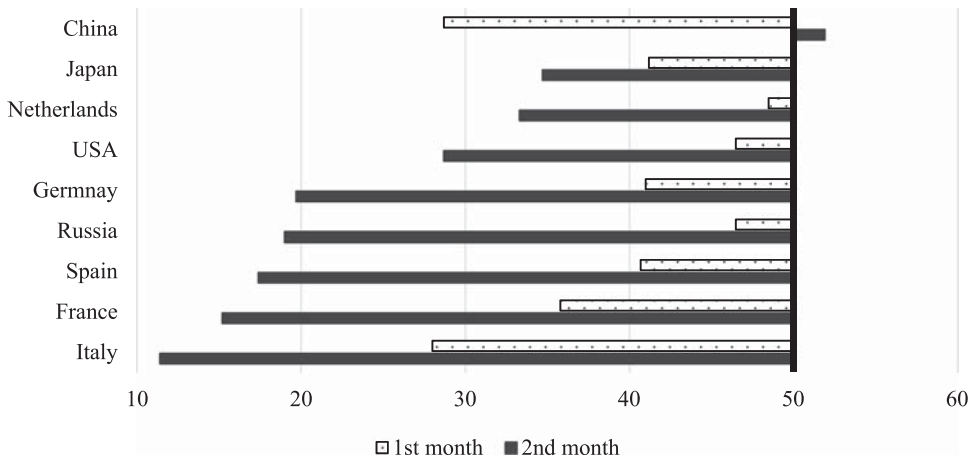
By virtue of their productive capacity, SOEs have contributed to the rapid epilogue of the emergency phase, not only by developing technologies that have reduced diagnosis and treatment time, but also by increasing the production of protective equipment and by building emergency infrastructures in extremely short times. For example, the Huoshenshan Hospital constructed in Wuhan between January 23 and February 2,

2020 was built by the SOE, China State Construction. Beijing Urban Construction Group increased the capacity of the Xiaotangshan Hospital in Beijing after receiving direct funding from the central bank. Other SOEs such as Sinopharm, CHTC Jiahua Nonwoven Co Ltd, Nanjing Jihua 3521 Special Equipment Co Ltd, Gree Electric Appliances Inc. and even the oil giant China National Petroleum Corporation have supplied tens of millions of units of protective and medical equipment. Others, such as China Post Group and State Grid Corp of China have accelerated delivery and distribution services for medical equipment and increased the supply of energy charging stations for machinery dedicated to epidemic prevention (*China Daily* 2020; CNPC 2020; Fan 2020; Liu 2020; PBC 2020a; SASAC 2020; Xinhua 2020a; Yu 2020; Zhao 2020a, 2020b; Zheng 2020; Zhong 2020a, 2020b).<sup>9</sup>

Such effort has been sustained by the banking system. At the end of January, the PBC transferred about 300 billion yuan (39.5 billion euros) to the nine largest state-owned banks, which in turn have financed the operations of thousands of businesses involved in the prevention and control of the epidemic.<sup>10</sup> By ensuring the full availability of protective material, the action of the SOEs has contributed to facilitating the implementation of the security measures established at the central level, thus preventing the reopening of the plants being accompanied by a second epidemic wave. For this purpose, resumption of the activities has been subject to strict discipline by the central government: the local government have been delegated the supervision of the distribution of the protective materials in the production units and the responsibility of sending experts to instruct the workers on their correct use. At the same time, the companies were assigned the task of monitoring the health of their employees, with complex and costly procedures, not least from a sanctioning point of view (State Council of the People's Republic of China 2020b, 2020c, 2020d).

The public efforts outlined above were quick to show their effects: as early as mid-March 2020, excluding the Hubei region, 90% of the plants in the country had resumed their activities (NBS 2020c). To more accurately contextualize the recovery of operations in China, it may be useful to look at the Purchasing Managers Index regarding the production of the manufacturing sector. For this index, a representative sample of firms is consulted on whether production has increased, decreased or remained stable, in comparison to the previous month. A value above 50 marks an expansion of production compared to the previous month, while a lower value indicates a contraction. Beyond providing real time output growth information, this indicator can accurately predict GDP growth over the short term (Dasgupta and Lahiri 1993).

Figure 8 compares the Purchasing Managers Index of manufacturing industry in different countries in the first and second month following the outbreak of the epidemic in their respective areas.<sup>11</sup> The draconian interventions immediately adopted by China have indeed entailed an almost unparalleled economic cost in the very short term. However, unlike in advanced economies, already one month after the beginning of the emergency the Purchasing Managers Index in China has seen a marked improvement thanks to the rapid reopening of the plants. This is confirmed by the growth in output, which in March 2020 recorded an increase of 32% over the previous month.



**Figure 8.** Purchasing Managers Index (50 = no variation from previous month). Source: IHS Markit (2020).

The rapid reactivation of the industrial system will not be enough to avoid a drop in China's GDP in the first trimester ( $-6.8\%$ ). Nevertheless, forecasts for other countries appear much darker—in line with the significant deterioration of their respective Purchasing Managers Indexes in April 2020. IHS Markit 2020 estimates that the GDP of the Eurozone and the United States, after experiencing a severe fall in the first trimester, will fall by 7.4% and 13% respectively in the second quarter of 2020. According to the MEF's (Ministry of Economy and Finance of Italy) Economic and Financial Document, Italy's GDP will fall by 10.5%.

Among other things, the purely social (and economic, in terms of inflationary pressures) costs involved in the first phase of the emergency in China have also been partially alleviated by the action of the SOEs, which have played an important role in the price control. For example, State Grid Corporation of China has guaranteed free energy supply to households in the city of Wuhan, as well as increasing the offer of free energy charging stations. Other state-owned enterprises such as China Grain Reserves Group, COFCO Group and China Resources Group have increased food production, while at the same time guaranteeing transport and distribution services, and strengthened retailer supervision to prevent speculation on the cost of food and basic necessities (Zhang 2020b; Zhao 2020c; Zhong and Zheng 2020).

In conclusion, the hypothetical absence of SOEs, combined with the government's reduced institutional capacity to implement stringent measures to minimize social contacts, would have amplified the magnitude of the shock caused by the COVID-19 eruption in China. Clearly, the rapid conclusion of the first phase has produced significant benefits in the subsequent phases, to the extent that more limited stimuli will be needed to re-establish previous output levels.

## 5. The Reactivation of the Chinese Production System (Phase II)

While proving successful in minimizing the spread and fatality of the COVID-19 pandemic, the implementation of the lock-down strategy by Chinese government has

nevertheless meant an abrupt interruption in the production and logistics input flows. This has first and foremost penalized the weakest links in the domestic production chain.<sup>12</sup> For this reason, during the second phase of the coronavirus emergency, the pivotal objective of Chinese government was to alleviate the pressure on SMEs' cash flow, supporting their access to credit by easing the PBC monetary policy.

PBC's approach differs markedly from the one adopted by the the Federal Reserve and the European Central Bank, which, from the very early stages of the epidemic, flooded the markets with liquidity through robust securities purchasing plans and the maintenance of real interest rates in negative territories. On the contrary, the Chinese government's action was characterized by a certain caution in terms of the expansion of money supply. On the other hand, the launch of a quantitative easing in China could have led to a significant increase in domestic inflation and de facto unload the financing of the manoeuvre on fixed income recipients. This is why, at this stage, monetary policy in China was focused on ensuring that the liquidity placed on the market was actually used to ensure the survival of SME activities. First, the central bank established that the real estate market could not be used to stimulate the economy in the short term, obstructing the flow of credit to finance home trading (Chen and Reeves 2020; Xinhua 2020e). Second, the three largest public banks were urged by the PBC to increase the supply of credit to SMEs, to the extent that loans to these entities will have to increase "no less than 30% [in comparison to the first quarter 2019], and interest rates will have to substantially fall compared to 2019" (PBC 2020h). At the same time, state-owned banks have been allowed to raise the share of credit to small and medium-sized enterprises to 350 billion yuan (50 billion euros).

The monetary stimuli that will be examined below have followed the direction outlined by the CBIRC, which, as early as the beginning of February 2020, instructed the banking institutions to extend the period of loan repayments and reduce the fees and interest applied. To do this, it was also considered that public banks would grant credit to SMEs with deposit or warehouse receipts as warranty, or that credit would be granted in advance to finance their orders' payments. Finally, CBIRC has instructed industrial SOEs, on the one hand, to pay their suppliers real-time, even before the goods' delivery and, on the other hand, to reduce the amount of payments required in advance to upstream firms in the production chain (CBIRC 2020a, 2020b; Jiang 2020a).

Within this regulatory framework, aimed at alleviating pressure on SMEs' cash flow, the PBC has provided credit institutions about 800 billion yuan (€ 116 billion) at subsidized interest rates (Jiang 2020b).<sup>13</sup> While 300 billion flowed to the organizations involved in the fight against the coronavirus, 500 billion will progressively be used to finance the reopening of plants, the resumption of production and the payment of overdue debts of SMEs. At the beginning of April 2020, the government commissioned the PBC to increase its refinancing operations by an additional 1000 billion in order to expand the credit supply for small and medium-sized banks over the course of the year.

It is worth noting that the PBC has imposed a limit (4.55%) on the interest rate applied to loans financed from these resources. As the inflation rate in March-April in China was 5.1%, SMEs benefited from credit at negative real interest rates. In order to align their credit allocation preferences with the goals set by the government, it was decided that banks would have access to the additional liquidity provided by the

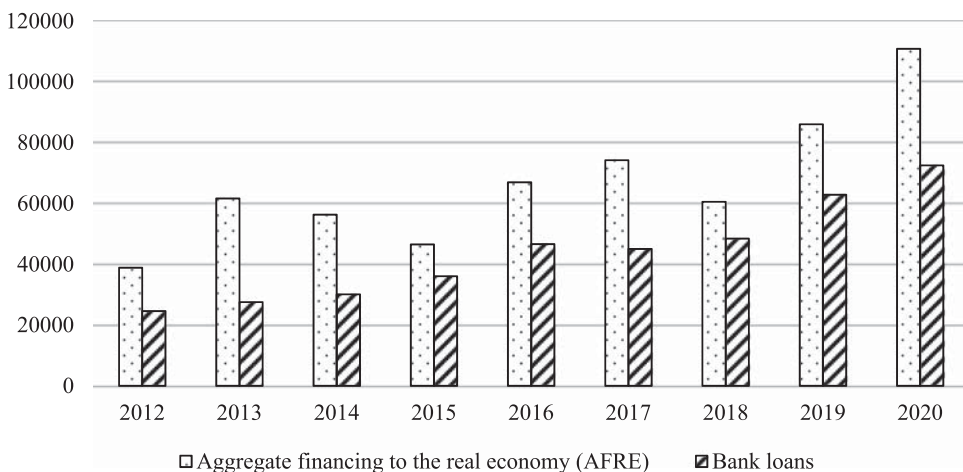


PBC if the previously provided resources had actually been used to support SMEs (PBC 2020a, 2020b, 2020c).

In order to strengthen the impact of the interventions on the real economy, the PBC lowered the required reserve ratio (RRR) for small and medium-sized commercial banks operating in rural and regional areas. In order to channel the released liquidity to SMEs, the RRR cut was implemented gradually, so that the PBC could verify that banks were lending to SMEs at relatively low interest rates before strengthening their lending capacity by further reducing the RRR (PBC 2020d). At the beginning of April 2020, in order to maximise the effectiveness of this measure, the PBC reduced by half the interest rate at which it remunerates the reserves above the mandatory amount and deposited by the financial institutions at the central bank itself. The intention was to encourage commercial banks to reduce the reserves, set aside for precautionary purposes, by pushing them “to boost the efficiency of fund use and better serve the real economy” (PBC 2020d). Finally, in order to further expand credit for SMEs, the government supported the issue of relatively low interest bonds by a limited number of public banks, stipulating that these resources were to be used solely to support SMEs (Jiang 2020b).

The joint action of CBIRC, PBC and public banks has made it possible to effectively transmit the monetary stimuli to the real economy. In the first three months of 2020, the banking system diverted 7.25 trillion yuan to the real sector of the economy (+12.7% year-on-year). This accounts for more than 65% of the aggregate financing to the real economy (AFRE) (PBC 2020k), with the latter growing by 2486 billion yuan over the previous year (Figure 9). The largest beneficiaries of the credit expansion have been public institutions and enterprises, which have received 85.1% of the loans granted by financial institutions (PBC 2020j; Xinhua 2020b).

On the whole, the monetary policy measures examined above have been a decisive impulse to reboot the production machine (Jiang 2020c; PBC 2020f, 2020g; Xinhua 2020b), to the extent that at the end of April 2020 “industrial production is essentially recovered” (PBC 2020i).



**Figure 9.** Total funding to the economy in the first quarter of the year (2012–2020). Source: PBC (2020j, 2020k), Xinhua (2020b).

## 6. State Investment as the Cornerstone of the Countercyclical Strategy (Phase III)

From mid-March 2020, it became clear that preservation of production capacity could not in itself be sufficient to bring output back up to pre-COVID-19 levels. The global spread of the epidemic has resulted in the most severe fall in foreign orders since 2008, increasing the private agents' reluctance in the manufacturing sector to increase decisively their investment despite, as we shall see below, the PBC's pursuit of a more accommodating monetary policy. After all, this phenomenon is already evident in the April 2020 figures, when the rebound in industrial production have tended to be accompanied by a protracted decline in investment. By directly and indirectly involving at least 110 million Chinese, the downsizing of the manufacturing sector would lead to a stagnation of GDP and a worrying expansion of unemployment.

For the first time in decades, the Chinese government has not set any growth targets for the current year due to the serious relative uncertainty in world economy. However, it can be deduced by reflecting on the employment target set during the two annual plenary sessions of the National People's Congress (NPC) and the Chinese People's Political Consultative Conference (CPPCC), held in late May 2020. It has been set at 9 million new jobs in urban areas, in order to keep the unemployment rate close to 6%.<sup>14</sup> Since each point of loss in growth is associated with an increase of almost 4 million unemployed,<sup>15</sup> a protraction of the decline in the output at a rate similar to that of the first quarter of 2020 would mean a swelling of the "sack" of unemployment—with all the socio-political stability problems that this entails. On the contrary, the achievement of the employment targets estimated above is bound to an annual GDP growth of about 4%.

The achievement of this goal has required the implementation of a series of fiscal and monetary stimuli. Together with the reduction of social security payments by firms,<sup>16</sup> the countercyclical action undertaken by the Chinese government since the end of March 2020 has been centred around an extensive infrastructure investment program—financed mainly by the issue of bonds on behalf of the local governments amounting to 3750 billion yuan (1600 more than in 2019)—both in traditional and more modern areas (Table 1). Concerning the former, the public sector has undertaken the support of regional development projects. As for the latter, highly innovative projects will be funded. Furthermore, resources will be increased to encourage the transition to "smart

**Table 1.** Composition of public investment stimuli in China by sector.

Investments in "traditional" areas	Investments in "innovative" areas	Investments in health care
3,750 billion yuan (3.8% GDP) <ul style="list-style-type: none"> <li>• transportation facilities;</li> <li>• water conservancy works;</li> <li>• renovation of old urban residential areas;</li> <li>• vocational education;</li> </ul>	<ul style="list-style-type: none"> <li>• 5G network;</li> <li>• artificial intelligence;</li> <li>• data centres;</li> <li>• ultra-high voltage direct current;</li> <li>• charging facilities to promote wider use of new energy vehicles;</li> <li>• applications new technologies to traditional infrastructures;</li> </ul>	1,000 billion yuan (1% GDP) <ul style="list-style-type: none"> <li>• vaccine research and fast testing technology development;</li> <li>• medical facilities for epidemic prevention and treatment;</li> <li>• establishment national laboratories and hospitals;</li> <li>• strengthening community-level health and epidemic prevention efforts;</li> </ul>

Source: PBC (2020e), Chen (2020a, 2020b), Zhang (2020a), Xinhua (2020c, 2020d, 2020f), NDRC (2020), Zhao and Zhang (2020).

cities.” Finally, 1000 billion yuan (128 billion euros), financed by the issuance of “special government bonds,” will be invested to accelerate research and development in the biotechnology sector, to improve the mechanisms of prevention of infectious diseases and to strengthen health infrastructures such as laboratories and hospitals.

Support for demand for capital goods has been accompanied by a gradual relaxation of the monetary policy. The marked growth of the  $M_2$  aggregate since April (+11.1%, compared to an average of 8.7% in 2019) seems set to accelerate over the course of the year, if it is true that, in the report presented during the “two plenary sessions” mentioned above, Chinese Prime Minister Li Keqiang announced that

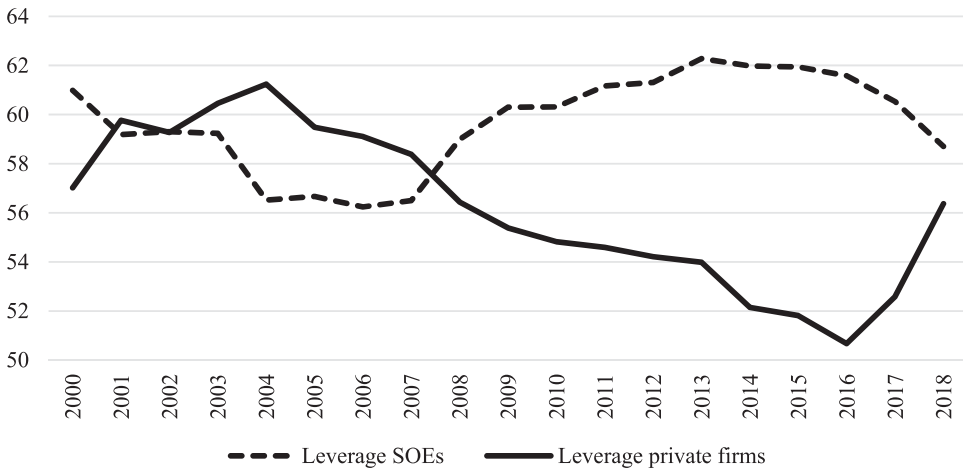
the country will use a variety of tools . . . to enable  $M_2$  money supply and aggregate financing to grow at notably higher rates than last year. . . . It is crucial to take steps to ensure enterprises can secure loans more easily, and promote steady reduction of interest rates. (Xinhua 2020g)

Understandably, it is premature to venture an assessment of the effectiveness of the stimuli launched by the Chinese government during the first months of 2020. Nevertheless, an investigation of the mechanisms that allowed the expansionary manoeuvres adopted by the Chinese government in the aftermath of the 2008 crisis to translate into the impressive GDP growth of<sup>17</sup> 2009–2010 might allow some hypothesis to be made in this respect. Then as today, international trade was hit by a severe recession that strongly impacted the export sector, as a result of which many “factories closed seemingly overnight, and workers were laid off” (Wong 2011, 3). The substantial weight of exports on China’s economy at the time exerted a strong downward pressure on its GDP, convincing the political decision-makers “to do everything necessary to reverse the trend” (Wong 2011, 5). This because the legitimacy of the government was, then as today, bound twice to maintaining high growth rates and expanding employment opportunities, especially in the urban sector.

In order to continue on the path of modernization, Chinese government took “measures to shift the emphasis in its economic activity from foreign expansion to domestic development, mostly to creating new infrastructure” (Rapoport and Gerts 2010, 60). “State-owned enterprises have been the primary vehicle through which Chinese government implemented the large stimulus package of 2008 and 2009” (Chen, Li, and Tillmann 2019, 27). This for two reasons: firstly, thanks to their ability to invest in accordance with socio-political objectives set by the government rather than pursuing the maximization of equity values (He and Kyaw 2018); and secondly, thanks to their ability to operate even with very low profits if not even at a loss (Yu 2014, 177).

On the monetary side, the sharp credit expansion which started in the last quarter of 2008 (Chan and Zhu 2009, 20–21) has supported the investment efforts of the state-owned enterprises. Government interference in their operations and the preferential access to credit because of their privileged relationship with the banking system, also dominated by SOEs, have increased the leverage of industrial SOEs compared to private firms in the same sector, which indeed continued their “deleveraging” at least until 2016 (Figure 10).

This divergence reflects the asymmetric response between investment decisions taken by public and private firms. While the slowdown in foreign demand from advanced countries, followed by the fall in profitability of the industrial sector (see Figure 3),

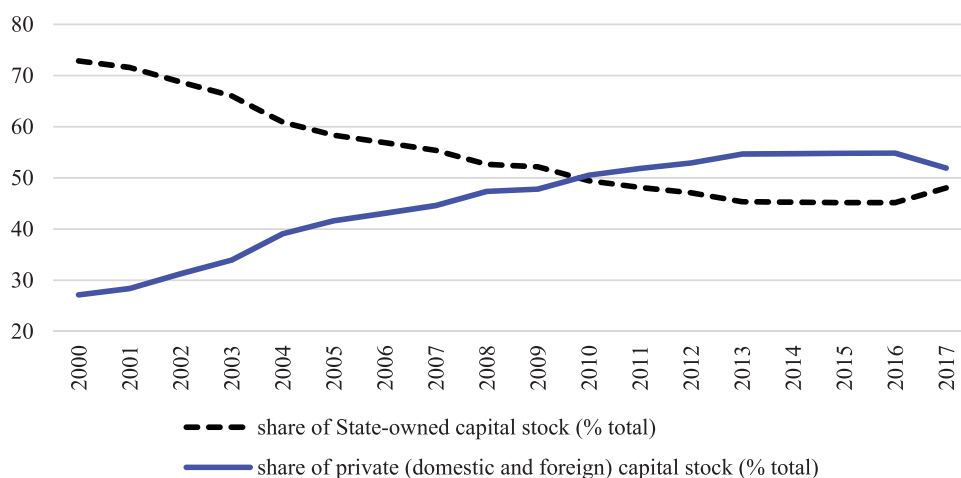


**Figure 10.** Leverage of public and private industrial enterprises in China. Source: NBS (National Bureau of Statistics of China) (2020a, 2020b, 2020c). Note: Leverage = total liabilities/total assets.

depressed the expectations of export-oriented private companies—which predictably responded by decelerating their investment rate—SOEs acted in the opposite direction, increasing their investments in key areas such as agriculture, energy and transport (Deng et al. 2011; Wen and Wu 2014). The financial and industrial activism of state-owned enterprises during last decade’s crisis has provided a decisive impulse in support of infrastructure investments and thus to economic recovery.

Of course, the adoption of the stimulus package by the Chinese Government in spring 2020 does not guarantee that the same results will be achieved. For one, the fiscal support to public investments is considerably lower, i.e. about 5% of GDP compared to 12% in 2008 and 2009—even if it has to be acknowledged that the contribution from net exports to GDP growth (and thus the necessary countercyclical action) has declined significantly in recent years compared to the pre-2009 period (Zhang 2020a). Second, Chinese economy itself has entered a “new normal” phase, characterized by an average growth rate of about 7% over the last five years against the double-digit growth rates of the previous period.<sup>18</sup>

Yet, the significant position that SOEs still occupy in the national economy might ensure that the reproposal of expansive manoeuvres is followed by a prompt recovery of aggregate demand even in the current context. This is even more true if we consider two aspects. On the one hand, the current weight of state-owned enterprises in the economy has remained virtually unchanged over the past ten years, mainly due to the fiscal stimulus and the asymmetric effects resulting from the easing of credit conditions following the 2009 crisis. As Figure 11 shows, after almost a decade of continuous regression, and after slowing its pace from 2007 to 2012, the share of publicly-owned capital stock in the industrial sector actually increased from the following year, returning to close to 50%, signalling an aggressive “strike back” of the state from 2013 to this date (Lardy 2019). This implies that the monetary expansion recently planned by public decision-makers may once again be able of “pushing on a string,” i.e. projecting the economic system



**Figure 11.** Share of state and private-owned industrial capital stock on the total in China. Source: NBS (2020a, 2020b, 2020c).

in the direction of expansion by virtue of the relationship that continues to strengthen the banking and industrial systems.

On the other hand, the increase in SOE debt levels resulting from monetary expansion does not appear to pose a threat to the preservation of the internal balance of Chinese economy. In fact, although their short-term returns might be negative, the aim of public infrastructure projects is to increase productive efficiency, capital intensity and total factor productivity. This goal is confirmed not only by the type of investment recently favoured by the Chinese government, but also by a measure adopted at the beginning of March 2020, which established that SOEs should increase the employment opportunities for new graduates (Cheng 2020; Zhong 2020c), in order that the most modern part of the country's human capital can actively contribute to accelerating the innovative skills of state-owned enterprises.

The increase of the potential of output growth over the long term intrinsic to this strategy could indeed lead to an increase in the flow of resources through which to pay interest and repay debts—avoiding that the expansion of SOE's production capacity is reflected in substantial losses for the banking system and, potentially, in an unsustainable growth of public debt. This is precisely what happened in the aftermath of the 2008 stimulus plan, where the cumulative growth in manufacturing output ensured by the expansion of public investment, especially in the most innovative sectors (Qi and Kotz 2020), has contributed to increase the productivity growth rate. In this regard, it must be noted that the bulk of China's R&D investments in the industrial sector were carried out by large enterprises owned or controlled by the state, which then generated more innovation output than private firms during the years following the financial crisis of 2008 (Kroll and Kou 2019, 191). The upward trend in profitability has therefore allowed state-owned enterprises to significantly reduce their debt rates—returning to 2007 levels and converging towards those of private enterprises (Figure 10).

Moreover, the preservation of relatively low levels of public debt over the last decade (50.1% of GDP in 2019)<sup>19</sup> and the risible share of it held by foreign investors (8.5% of the

total) could pave the way for a possible strengthening of fiscal stimulus by the Chinese government in the second half of 2020—should the internal and external economic scenario not show tangible signs of recovery.

## 7. Conclusions

The crisis caused by the COVID-19 eruption shows how the allocative efficiency of the private sector can rapidly turn into social macro-inefficiency. Looking only at the period immediately following the outbreak of the epidemic, the efficient functioning of market mechanisms requires that the increase in orders from the public sector for medical equipment and equipment (ventilators, masks, etc.) must exert a price increase such as to ensure a level of profitability sufficient to offset the risks inherent in the new investments, or cover the costs of productive conversion of firms active in other sectors. Only then can we expect an expansion of production on the part of the private sector. However, there is no assurance that this will happen, let alone that the increase in supply will meet the care needs of the population.

If one assumes that, in the sectors involved in the production of the goods needed to contain the spread of the epidemic the supply curve remains unchanged, the price level set by the state must be higher than that prevailing on the market in order for the private sector to spontaneously use additional productive factors to increase output. In other terms, the pursuit of the objective of maximization of profitability at the level of an individual company can lead to a significant fiscal cost for the state, which would inevitably weigh heavily on other sectors of an already generally debilitated economy. If such fiscal cost proves to be unsustainable, then the pursuit of business profitability would lead to sub-optimal levels of investment from a social point of view.

Moreover, even if the private agents were to consider the expected returns sufficient to justify the investment, the time span between planning, implementation and activation of production capacity may prove to be so long as to render the production capacity expansion almost unnecessary. It is possible to reach the paradoxical situation of finishing the construction of specialized facilities for the treatment of viral pneumonia after the epidemic has been eradicated. For these reasons, as Dani Rodrik rightly emphasises, “there is nothing like a pandemic to highlight markets’ inadequacy in the face of collective-action problems and the importance of state capacity to respond to crises and protect people” (Rodrik 2020).

In fact, it is precisely in times of crisis such as the present one where the “inefficiency” of the public sector translates into social macro-efficiency. It is no coincidence that one of the most effective countries in minimizing losses both in terms of human lives and in economic terms—and which seems destined to avoid recession—is China, where the state sector occupies the key centres of economic life. In this work, we have attempted to show how the Chinese government’s ability to mobilize the resources needed to promptly combat the COVID-19 epidemic is rooted in the country’s development model—a model revolving around state-owned enterprises, both in the industrial and banking sectors.

By virtue of its de facto monopolistic power over the banking sector, the government has been and still is capable of suppressing financial rents and at the same time channel resources to strategically important sectors. This is especially true in the case of industrial SOEs, which despite their poor profitability, have contributed to raising employment

levels above those compatible with their “survival” in a pure market system. The maximisation of the use of production factors regardless of their profitability, or at any rate only to the extent to cover the costs, thereby allows increasing the level of the equilibrium output. This can only be considered “irrational” (and inefficient) from a purely capitalistic point of view, but from a social point of view, the maximization of the use of productive resources can only be considered “rational” (and efficient). This is the structural feature that has made Chinese economy better equipped to deal with the current crisis—because it is precisely at critical times that the need to maximize output clearly emerges, in spite of guaranteed returns on investment or the possibility to remunerate savers in an “adequate” way.

Furthermore, the strong presence of the state in the credit system gives political decision-makers the power to mobilize resources not only towards industries considered key to economic development (such as heavy industry) but also to divert them quickly to those sectors best equipped to fight the epidemic (like healthcare)—as occurred during the first phase—or towards small and medium enterprises, thus ensuring the operativity of China’s economic key sector, i.e. manufacturing, as witnessed during the second phase of the fight against the coronavirus. In this sense, the governmental activism in Chinese banking results in monetary policies which, besides transcending objectives confined to mere price stability, are capable of rapidly changing the direction of credit flows in accordance with targets set at the central level. This is crucial, not only in combating the epidemic, but also in preventing recession.

As virtuous as it is in countering emergencies, China’s economic structure today is not exempt of criticalities. To start, even if government interventions targeted at lowering interest rates show some effectiveness in reviving the economy in moments of crisis, an excessive use of this power stemming from the monopoly on credit could discourage the accumulation of national savings on the long term. Particularly as the possible strengthening of the public pension systems, made necessary by the aging of the population, will weaken the tendency to store a high share of savings for precautionary reasons.

Lastly, it should not be underestimated that the desire to preserve, for purely political reasons, full employment within a particularly severe depressive context, could lead the government to an excessive intervention that would go far beyond “the mere attempt to compensate for the insufficient level of aggregate demand in the short-run” (Baran 1980, 92). This could push the state sector to “invade” other fields, for instance those related to light industry. Whilst such intrusion may be justified when investments are lacking because the prospects for profit are not attractive enough for private agents, it might become a deterrent to their initiative once the economy is back on a path of growth. The resulting “deterioration” of the “competitive climate” could thus deprive the Chinese economy of the dynamism of the business sector exposed to international competition, which has been one of the key variables of China’s extraordinary growth over the last forty years.

## Notes

1. The spread of the epidemic in the USA, in Italy, in France and in Great Britain could also affect the production capacity of the Chinese manufacturing industry, being these countries the major suppliers of high-tech products, components and engines, turbines, agricultural products and industrial raw materials.

2. Data on exports was obtained from the General Administration of Customs of the People's Republic of China.
3. As Keynes envisioned, it is not the ownership of the instruments of production which it is important for the State to assume. If the State is able to determine the aggregate amount of resources devoted to augmenting the instruments and the basic rate of reward to those who own them, it will have accomplished all that is necessary (Keynes 1936, 378). This contains the idea that the capitalist state, by controlling the levers that contribute to determine the real wage (such as the possibility to implement income policies and/or to adopt expansive monetary measures) "is in a position to calculate the marginal efficiency of capital-goods on long views" (Keynes 1936, 164). In this sense, the main goal of state intervention in capitalist countries is the improvement of profitability expectations, which will induce private firms to increase their investments.
4. Between 1979 and 2017, the share of investment in China's GDP was 15 points above the world average.
5. Yet in 2012, one in four SOEs operated at a loss (Yu 2014, 177).
6. Data relating to the composition of the activities of banking institutions in China are obtained from the website of the Chinese Banking and Insurance Regulatory Commission. See (CBIRC 2014).
7. The development of the capital market in China has not eroded the government's power to demand that SOEs fulfill their "duties," as their IPO requests are scrutinized by the political power, and their approval is linked more to the pursuit of growth strategies centred on full employment rather than on profit maximization (Johansson et al. 2017; Li and Zhou 2015).
8. In the early stages of the epidemic, the Wuhan government denied the possibility of infection between humans. For this reason, local representatives of the Communist Party were removed from their positions.
9. On the role of SOEs in the fight against the virus, see <http://en.sasac.gov.cn/TimelineSOEsfightagainstCOVID19.html>.
10. From the January 25 to the March 10, 2020, the SOEs benefiting from the first tranche of credits produced 1.6 billion masks, 87.79 million protective suits, 4.21 million protective goggles, 10.29 million test kits, 4143 pressurized ambulances, 2.49 million tons of vegetables, 3.74 million tons of wheat and 1.56 million tons of meat (PBC 2020a, 2020b).
11. Since COVID-19 hit China about a month earlier, February and March of 2020 have been selected for this country, while for all the other countries are considered the months of March and April.
12. A study conducted by CEIBS in February 2020 quoted by Huang et al. (2020) reported that 85% of the 995 SMEs under investigation would not survive for more than three months.
13. Liquidity was injected through rediscount operations and exceptional loans—the latter being the main means by which the PBC broadened the monetary base during the planning era.
14. See, [http://english.court.gov.cn/2020-05/22/content\\_37536163.htm](http://english.court.gov.cn/2020-05/22/content_37536163.htm).
15. The estimate is by Renmin University's Vice President, Liu Yuanchun (*Economic Daily* 2020).
16. This measure, which costs 2500 billion yuan, is designed to help labour-intensive SMEs, where social security contributions account for about 30%–40% of labour costs.
17. In 2009 and 2010, China's average GDP growth was 10%, compared with a world average of 1.3%.
18. This new phase can be associated with the transition from an export-oriented growth model—based on the accumulation of foreign exchange reserves aimed at compressing the exchange rate—to a progressively domestic consumption-oriented one.
19. Although there are no official figures, a study published by BNP Paribas Asset Management with the self-explanatory title "Demystifying China's local government debt" estimates that China's total public debt is between 51% and 76%, concluding that "China's total (central + local government) public debt-to-GDP ratio is not excessive compared to many other countries" (Lo 2019).



## Acknowledgements

I am indebted to Roberto Nadalini, Leonardo Bargigli, Ronghua Wang, and Enrico Calzolari for the discussions and ideas that made this article possible. Any error is responsibility of the author.

## Disclosure Statement

No potential conflict of interest was reported by the author(s).

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